



wind

solar

geothermal

hydraulic

biomass



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## Introduction

The Mediterranean regions face common challenges: competitiveness, economic development, risk management, etc. Compared with the globalization they must address these challenges through an increased support to the innovation and competitiveness in respect of the environment.

The development of renewable energies is an asset for these regions. The role in promoting the Renewable Energies in the regions of the MED space is crucial: the development of renewable energies requires, therefore, the conditions for a better coordination of regional policies. In this perspective the approach and the tools of the project ENERMED.

ENERMED is a transnational cooperation project implemented in the MED program which aims to improve and bring coherence to the Mediterranean regional policies on renewable energy. For this reason, the project brings together local authorities in Spain (La Pobla de Benissa and the Community of Valencia), French regions (PACA), Greece (Crete), Italy (Tuscany, Sardinia ) and research institutes in the field of energy policies and sustainable development: Institut de la Méditerranée, Scuola Superiore Santa Anna in Pisa, Laor, E-Zavod, CERTH, Centre for Renewable Energy (CRES), Institute of Energy Hrvoje Pozar (EIHP).

ENERMED has a strong operational dimension. It indeed not only aim at analysing the contribution of regional authorities to the definition and implementation of European and national policies on RES, it also aims at contributing to the effective improvement of public decision and expertise processes by experimenting innovative features of governance (in the broad meaning of the word) through the implementation of territorial Pilot Projects.

# 1. The Pilot Projects



The main objective of Pilot Projects is the experimentation of innovative features of governance supporting the development of Renewable Energies (RE).

- Pilot Projects are also meant to pursue the following specific goals:
- Demonstrate and experiment the positive leverage effect on private investment allowed by public funds;
  - Demonstrate and experiment how public grants and incentives might allow the implementation of experimental (and thus risky) operations corresponding to a long term strategy and aiming at being then disseminated;
  - Demonstrate and experiment the role of public policies on the organisation of integrated industrial branches gathering the various economic stakeholders of the chain;
  - Gather the various regional stakeholders of renewable energies in a shared strategy.

## Characteristics of PP

The Pilot Projects should meet the following characteristics:

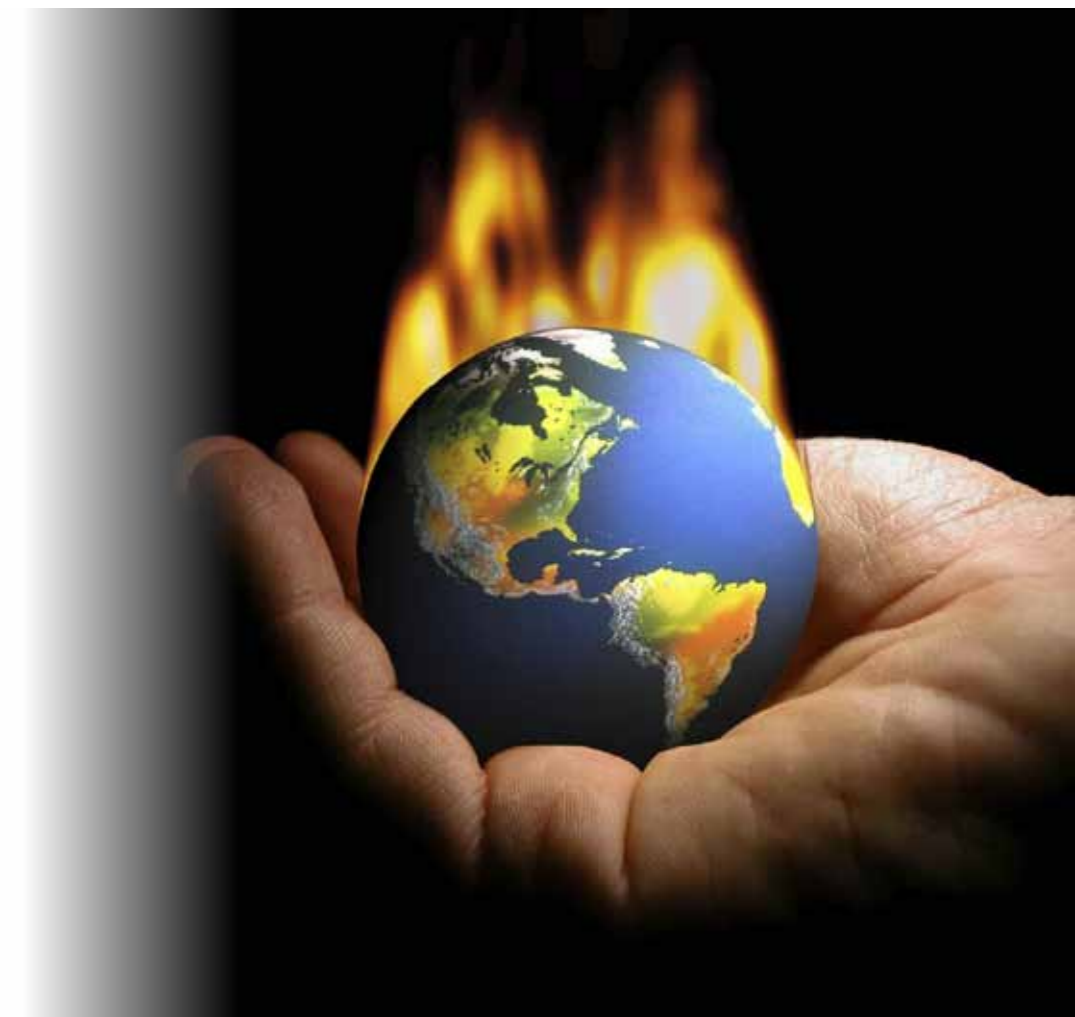
- Innovation in governance through the implementation of various functions supporting renewable energy:
  - Analysis and evaluation of energy needs territorial potential of renewable energy, installed capacity etc.;
  - Consultation and participation of local people;
  - Local and regional planning.
- Transferability to other territories:
  - On different types of Mediterranean areas: rural area, urbanized area;
  - Potential for cross-border and macro-regional level.
- Project respects the principles of sustainable development:
  - Environmental dimension: development of short circuits of distribution, low carbon footprint;

- The economic dimension: development of training, support for different channels;
- Experimental dimension for the achievement of investment:
  - Studies, analyzes precedent, precursor, territorial animation;
  - Innovative financial mobilization.

## Local and transnational success criteria

PPs will be evaluated according to a set of success criteria defined upstream the implementation phase: local success criteria defined at each PP level by all local partners; transnational local criteria that have been defined by ENERMED partners during the meeting held in Ptuj (Slovenia) on 6th and 7th October 2011:

- a.** Partnership and key actors: inside the PPs, the partners have the capacities and competences to produce effective results, (particularly private actors).
- b.** Networking: the PPs allowed to enlarge the ENERMED network by involving local, regional and national actors.
- c.** Innovation in terms of practices, outputs and results of the PPs, financing and creation of new political perspectives for RES policies and strategies in the Mediterranean region.
- d.** Integration-Mainstreaming: integration of PPs results into existing RES policy frameworks at diverse levels (local, regional, national and European).
- e.** Governance: multi-level and multi-actor mobilisation and influence for improving coherence, coordination and complementarity in policies, programmes and projects.
- f.** Sustainability: project continuity and/or duration of results over the end of the PPs.
- g.** Transferability: practices and their elements (activities and outputs) that can be implemented in different contexts.



## Selected Pilot Projects

Eight (8) pilot projects were selected and validated from the Steering Committee:

- 2.** Municipality of Benissa (Spain): Promotion of solar thermal energy at existing homes in the municipality of Benissa
- 3.** Tuscany region (Italy): The governance of the biomass energy in Tuscany : issues and opportunities
- 4.** Slovenia: North African catfish farming by using RES
- 5.** Municipality of La Pobla de Valbonna (Spain): Creation of Renewable Energies Structure
- 6.** Sardinia region (Italy): The creation of a demonstrative kiosk for the development of the renewable energies (RE)
- 7.** Creta (Greece): Elaboration and Experimentation of a "Toolkit for the evaluation of RES Investments towards RES Strategy"
- 8.** PACA region (France): Feasibility Study on biomass of PACA region
- 9.** Croatia: Public Building Roofs Exchange in Primorje-Gorski kotar County



## 2. Description of each Pilot Project

Municipality of Benissa (Spain):

# Promotion of solar thermal energy at existing homes in the municipality of Benissa

### SUMMARY OF THE PILOT PROJECT

This pilot project concerns the development of a model for the promotion of solar thermal energy for domestic hot water (ACS) use at buildings constructed before the approval of Technical Building Code (CTE) in 2007. To this purpose the Municipality of Benissa is going to promote RE focused on domestic solar power, organize local fairs, present a model of ESCOS and create local business groups.

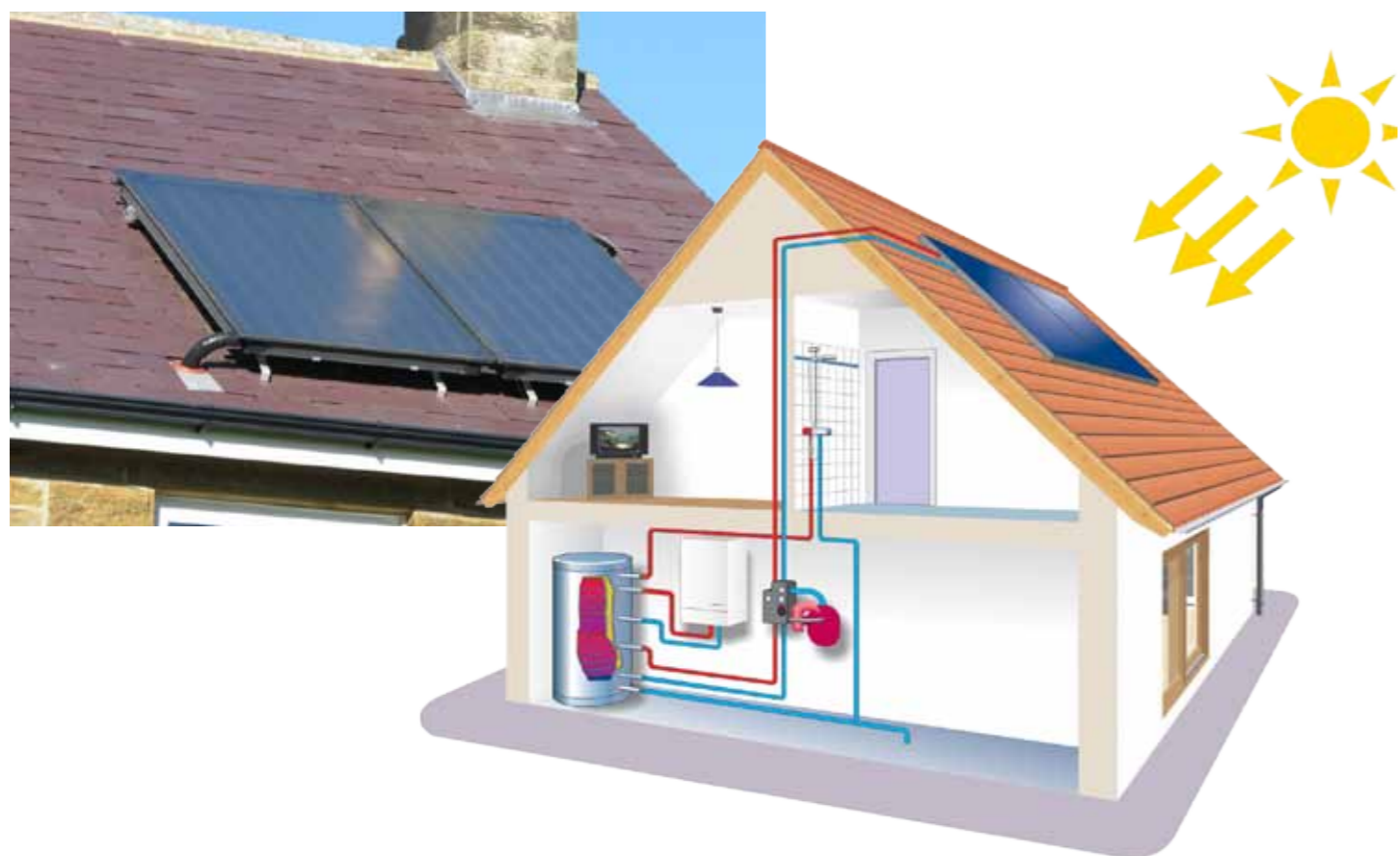
The aim of the project is to involve the population in a more sustainable consumption energy in order to reduce consumption of fossil fuels and emissions of greenhouse gases.

### MAIN OBJECTIVE OF THE PILOT

- Reducing Consumption of Conventional Energy
- Reducing Emissions of Greenhouse Gases
- Increasing the use of Renewable Energy .
- Promoting Local Renewable Energy Industry.

### INVOLVED PARTNERS

- Benissa's Town Council
- ESCO – Energy Services Company
- End users– Population and Local Business



### SUCCESS CRITERIA

- Number of facilities/ Minimum of promoted contracts: 20
- Minimum of installed area of collectors to use solar energy : 50 m2
- Minimum of CO2 tons that are no longer emitted to the atmosphere due to promotion and implementation of the PP: 13 Tm
- Minimum of ESE's/ companies which participate in the project: 2

### DIFFICULTIES AND UNEXPECTED EVENTS

- The response of most the population remains low.
- No request for facilities at the domestic level.
- Interested End users customers require real cases of success before permitting install anything on their properties.
- Likewise, the Energy Services Companies ask these same examples as guarantee before making investments.

### ASSESSMENTS

- The Project implementation is proving more costly than anticipated. Reasons:
  - The proposed Model Contract requires medium-long term contracts (about 5 to 10 years).
  - The current economic situation does not favor the implementation of innovative projects of this duration:
    - End users are interested in the project, but are reluctant to link to a company (ESCO) during this time period.

- The potential ESCO prefer direct payment of the cost to financing the installations for its part.
- At the level of domestic buildings, the results has been frankly negative:
  - Barely we have received requests from people interested on being studied the feasibility of the installation in their home, and
  - In those cases it was requested, has been from homes inside housing block in which the viability of the facility is the least possible.



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Tuscany region (Italy):

# The governance of the biomass energy in Tuscany: issues and opportunities

## SUMMARY OF THE PILOT PROJECT

- The PP2 concerns the elaboration of an innovative regional strategy to encourage biomass chain diffusion in Tuscany region, thought the definition of a "model" of governance for biomass shared among the stakeholders possible actors in the supply chain able to give input, proposals, guidelines for regional decision makers.

## MAIN OBJECTIFS OF THE PILOT

- understanding of the technical, economic and financial reasons who have prevented the activation of the "chain of biomass", based on the enhancement of the principles of the short chain and on the collaboration between different private and public actors;
- involve companies operating in biomass or intend to invest in the field, in order to detect a strategic point of view to understand the actual problems of the sector, but also the opportunities and the innovative perspectives that open in the coming years;
  - define the governance model biomass resource that is shared among all the possible actors in the supply chain and that could contain input, proposals, guidelines for action interesting for regional decision maker.

## INVOLVED PARTNERS

- Scuola Superiore Sant'Anna
- Region of Tuscany
- Promo P.A. Fondazione

## SUCCESS CRITERIA

- Top down approach
- Participation of almost 200 stakeholders
- Innovative knowledge on Tuscany biomass chain
- Identification of the main constrains to the biomass development in Tuscany
- Identification of the opportunity of biomass chain in Tuscany

## DIFFICULTIES AND UNEXPECTED EVENTS

- No difficulties and unexpected events have arisen until now.

## ASSESSMENTS

- Partnership and key actors: inside the PPs, do the partners have the capacities and competences to produce effective results, (particularly private actors)? Yes
- Networking: does the PPs allowed to enlarge the ENERMED network by involving local, regional and national actors? Yes since all the partners are involved in other networks on biomass and it could represent an opportunity to link the networks themselves.
- Does the PP bring actual innovation in terms of practices, outputs and results, financing and creation of new political perspectives for RES policies and strategies in the Mediterranean region? It will be possible to create new political perspectives if the PP results will be taken into account from the Tuscany Region to improve the political strategies on biomass chain. This is a very realistic prospective because the Tuscany Region expressed a strong interest on this topic.
- Integration-Mainstreaming: are the PP results being integrated into existing RES policy frameworks at diverse levels (local, regional, national and European)? Yes since the utilised approach

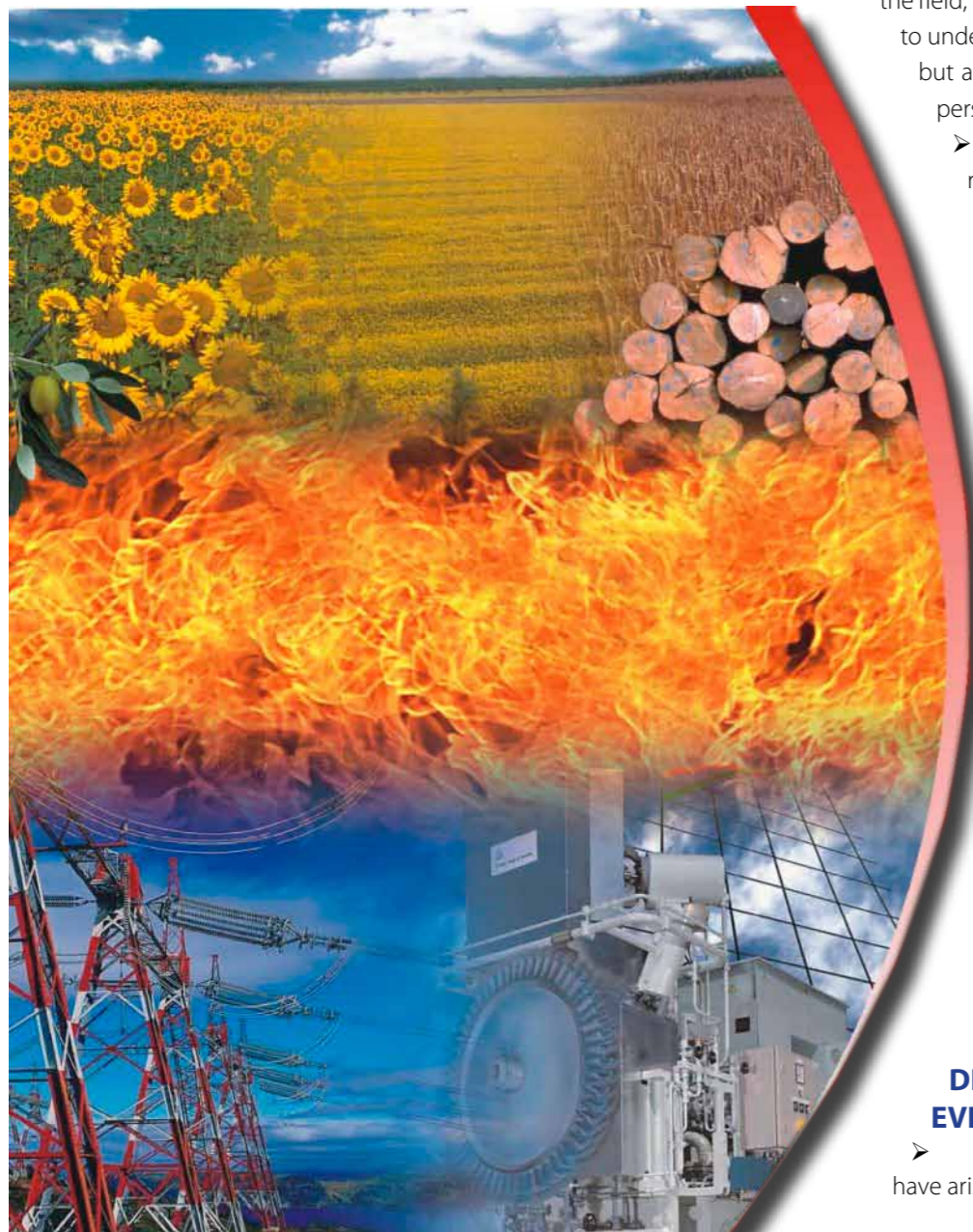
is transferable to other European regions and/or countries and the obtainable results could be use to improve and modify the policy at different levels.

- Governance: is there a multi-level and multi-actor mobilisation and influence for improving coherence, coordination and complementarity in policies, programmes and projects?

The coordination and the complementarity in policies programmes and projects could be guarantee extending the same work approach proposed for this PP.

- Sustainability: what is foreseen for ensuring the project continuity and/or duration of results over the end of the PPs? In our case the methodology could be implemented and used to monitoring the evolution of biomass chain on time.

- Transferability: are there some practices and their elements (activities and outputs) developed within the PP that can be implemented in other (territorial, sectoral) contexts? Yes, the same approach could be transfer to other regions but also to other chains such as photovoltaic, solar or eolic.



### Information

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## Slovenia:

# North African catfish farming by using RES

### SUMMARY OF THE PILOT PROJECT

Implementation of a feasibility study along with networking and raising activities for the optimal use of RES in North African catfish farming

### MAIN OBJECTIFS OF THE PILOT

- to demonstrate a good practice example for this and other regions in Slovenia how to set-up an innovative multilevel governance approach by use of renewable energy to produce food
- contributing to the wider goals of Slovenia's legislation on food self-sufficiency
- increase production and consumption of fish meat in Slovenia, which contributes to improved population health.



### INVOLVED PARTNERS

E-zavod (pilot project management)

- Institut de la Méditerranée (assistance with methodological concept of PP)
- CRES (assistance during implementation of PP and evaluation)

### SUCCESS CRITERIA

- Networking and raising activities:
- to involve at least half of the local communities in the region
- to involve all national institutions responsible for energy sector in the dialogue of building new approaches of governance in the field of energy use

### DIFFICULTIES AND UNEXPECTED EVENTS

- Due to current economic situation in local communities and potential investors are quite sceptic about new potential investments
- Low proportion of co-investments by EFF and the Ministry of agriculture and environment (60% of eligible costs);
- Complex and extensive documentation to obtain funding from EFF and the Ministry of agriculture and environment.

### ASSESSMENTS

Regarding to local success criteria:

- 1.) Networking: we involved 2 local and regional stakeholders which also have very good and fruitful cooperation with local communities and are working in the area of raising of awareness in the field of renewable energy.
- 2.) Evaluating of impacts: prepared SWOT analysis in the framework of feasibility study

### Regarding to transnational success criteria:

Partners in PP have organisational, management and dissemination capacities to provide demonstration effects (which are crucial in the PP). For technical and environmental issues, experts were hired. Involved stakeholders (like Pomurje technology park) also provide high level of access to regional industries and potential investors.

PP involves number of high level stakeholders from local (municipality), regional (regional energy agency and technology park) to national (ministry, agencies).

As project is designed as SMART project (redundant RES is used, chain of regional suppliers foreseen, new jobs provided, environmentally friendly, educational role, decreasing of food import dependency) it provides innovative approach and business model that should influence the preparation of Regional development plan which will start in 2013. As there will be strong commitment in development plans (regional and national) to design regional development projects in a way to achieve multiple impacts on the development, PP has high demonstration potential.

PP is integrated in a RES policy framework through the partnership with Regional energy agency. As there are no regional policies in Slovenia (comparable to other EU regions), it should become a part of RES development concept for next perspective. PP is not included in national policy frameworks or concepts.

PP is designed in a way to influence the preparation of next Regional development plan for Pomurje region and the regional energy concept. Stakeholders from national level were also involved, although PP could have minor impact on national strategies.

When presented to national bodies, it might have impact on the feed-in tariff concept, because it proves that redundant heat from biogas



power plants can be better exploited (in economically efficient way) and consequently, feed-in tariff system could be adjusted to award

plants which will make higher use of heat produced or punish ones who will not use it.

Local communities have no policy competences in the field of RES except spatial planning procedures which will not be influenced by PP.

In 2013, PP will be presented to different actors and potential investors in region (existing biogas powerplant operators, co-generation operators, users of geothermal energy etc.)

to animate them for investment. E-zavod will also provide assistance to interested companies by giving advice on acquiring subventions

and permits. Investment in the cat-fish farm would provide the best sustainability of the project.



acts on region.

If not successful, sustainability will be provided through the presentation of the PP concept to the bodies, which are responsible for the preparation of regional energy plans.

The most transferable element of PP is its concept of solving an EU wide problem of using the redundant heat of RES and co-generation. It requires a little space (comparing to green houses for example) and has multiple development im-



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## Municipality of La Pobla de Valbonna (Spain):

# Creation of Renewable Energies Structure



### SUMMARY OF THE PILOT PROJECT

The project aims to create a local structure on the development of renewable energies, particularly solar energy, to carry out a series of actions, taking into account the problems, possibilities, capabilities and resources of our area in this matter.

### MAIN OBJECTIVE OF THE PILOT

- Creation of an "Innovative Partnership."
- Studies leading to the regulation of sustainable construction/rehabilitation systems, technology and materials in connection with the development of renewable energy.
- Regular rules on renewable energy.
- Follow up and evaluation.

### INVOLVED PARTNERS

ITE (Instituto Tecnológico de la Energía)  
 AIDICO (Instituto Tecnológico de la Construcción)  
 INGENIO (Instituto de Gestión de la Innovación y del Conocimiento)  
 ITC (Instituto Tecnológico de la Cerámica).  
 IVE (Instituto Valenciano de la Construcción).  
 IBE (Ingeniería de la Energía Biotécnica).  
 INSTITUTO DE CIENCIAS DE LA CONSTRUCCION  
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 UNIVERSIDAD AUTÓNOMA DE MADRID (Departamento de Tecnología Electrónica y de las Comunicaciones).



OFFICINE PADRIN (Italia)  
 ESTUDIOS DE ARQUITECTURA.  
 AYUNTAMIENTO DE LA POBLA DE VALLBONA

### SUCCESS CRITERIA

- Government and public proceedings: The mobilization of actors from multiple levels for better coherence, coordination and complementarity in the policies, programs and projects related to renewable energy.
- Sustainability: The continuity of the project and the duration of the final results of the pilot projects.

### DIFFICULTIES AND UNEXPECTED EVENTS

The main difficulty that we have today is related to the final funding (once the changes that we proposed in the budget would be approved) to award the various studies that are able to integrate systems, technologies and materials for the realization of a sustainable building prototype, energy efficiency and employment.

It is the same with the award of the contribution of knowledge regarding the preparation of an ordinance regulating the promotion of renewable energy in the municipality, including public procurement in this area.

The determination and establishment of the Innovative Group /s in the field of Renewable Energy area with a local focus is having a number of difficulties arising mainly from the creation of a new manifestation of Innovation by a public administration that does not have much experience on it.

This new manifestation of Innovation requires the professional training of the staff that coordinates the group on these new models of public-private collaboration in the field of development of spaces



for building capacity.

La Pobla de Vallbona has opted for developing a sustainable and inclusive urban model, under the strategy of the Innovation Strategy Sustainable Land (see figure), which has among other challenges facing the successful development of renewable energies, in order to achieve the CO2 reduction targets derived from the signing of the Covenant of Mayors for Energy.

### ASSESSMENTS

The pilot project has created a network with the involvement of technical organisations and policy makers. This Renewable Energy Structure creates synergies between research, innovation and territorial cohesion through a local government.



### Information

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Sardinia Region (Italy):

# The Creation of a demonstrative kiosk for the development of the renewable energies (RE)



- Sharing the solutions to the problems and obstacles in the implementation of the policies and in putting into practice the actions and interventions aimed at the energy savings, energy efficiency and development of the renewable energy sources
- Contributing to the spreading of an integrated approach to energy planning.

- Increased public awareness of the benefits of the use of RE
- Adoption of tools of governance for the RE (PAES) by the Municipality of Sinnai.



### DIFFICULTIES AND UNEXPECTED EVENTS

- Bureaucratic Problems between the signatory Subjects
- Location of the suited premises
- Relationship with the companies that will supply the material
- Low presence of subjects working in the field of the RE
- Excess of expectations of the population

### ASSESSMENTS

- The only uncertainty met so far is the transnational character of the pilot project and its application to each Mediterranean municipal/region.

- For this reason we'll try to adopt solutions that could give to the project a more transnational characteristic, if possible through a comparison with all partners.

### INVOLVED PARTNERS

- Regional Agency Laore Sardegna
- Municipality of Sinnai

### SUCCESS CRITERIA

- Involvement of a large number of stakeholders that will take part to the awareness campaign;
- Opportunity to implement and spread the positive knowledge of the RE by the PP.

### SUMMARY OF THE PILOT PROJECT

- Creation of a kiosk which will serve as moderator, a place of neutral comparison, a catalyst of the initiatives/ proposals; it will organize meetings among the representatives of the professional categories and the political and technical leaders with the aim of presenting proposals.
- This kiosk with the active involvement of stakeholders will contribute to local strategies.

### MAIN OBJECTIVE OF THE PROJECT

- Making clear the framework of reference, in the normative and technical aspects, within the policies and the tools for the energy sustainability operating on a local scale
- Transferring the know-how related to the methodologies, good practices, operative criteria



### Information

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Creta (Greece):

# Elaboration and Experimentation of a “Toolkit for the evaluation of RES Investments towards RES Strategy”



## SUMMARY OF THE PILOT PROJECT

Development of a Decision Support Toolkit (RES-DST) which will assist local authorities in the evaluation of RES investments (wind, PV, biomass, etc.) and to inform the users about the procedures / requirements of implementing RES investments. A trial application of the toolkit will be performed in the Region of Crete.

## INVOLVED PARTNERS

CERTH, CRES and REAC

- CERTH is the coordinator of the pilot action and responsible for the development of part A of the toolkit
- Region of Crete Regional Energy Agency (REAC) contributes to the development of parts A and B of the toolkit and is responsible for the trial application of the toolkit in the region of CRETE
- CRES is responsible for the development of part B of the toolkit and also as being the national energy centre provides technical support to Region of Crete for the trial application of the toolkit in the region of Crete

## MAIN OBJECTIVE OF THE PILOT

The toolkit is intended to be a supporting tool for the assessment and evaluation of RES investments and to help communities improve the quality of the regional policies in support of RE, the contribution of the RE in the energy production and the economic, social, environmental, aesthetic impact of the RE projects. The toolkit will also inform the target users (Regional Administration and Municipalities Officers) about the procedures / requirements of implementing RES investments with the ultimate goal of its integration within the target users' structures and strategies. A trial application of the toolkit will be performed in the Region of Crete and any suggestions or improvements will be included in the toolkit, if necessary

### The toolkit is deployed in two parts:

**Part A** - Community understanding and readiness

This part aims to provide background information in the field of renewable energy technologies, so that no prerequisite knowledge outside of the toolkit is needed. If the end user is at his/her

first steps in the field of renewable energy technologies he/she will find all the needed information in order to create the background needed by part B and part A will also serve as reference in relation to part B.

- **Understanding** - To aid Communities and end users in understanding the basics of renewable energy
- **Readiness** - To aid Communities and local governance authorities in being ready to consider renewable energy projects before energy specific projects have been considered for implementation

**Part B** – Decision Support

Part B is deployed in two distinct sections as follows:

### ➤ Informative Section:

- It acts as an Information Gateway to the user, presenting in detail the Parameters that affect the deployment of RES investments in the Greek investment environment.
- All the Parameters are documented in detail and Guidelines on how and where to obtain data will be given.

### ➤ Evaluation Section:

- It will be able to evaluate intuitively the submitted investment in a specified location against the set of Parameters - P (legal / administrative, financial, technical, social, environmental and climate change) that was described in the Information part. Relevant quantitative and qualitative Indicators are used in order for the user to be able to understand and evaluate each Parameter that affects the investment procedure.
- The Indicators are documented in detail and sources of data for their definition are supplied.
- The user will be supplied with an overall Investment Evaluation.

## SUCCESS CRITERIA

The challenge of achieving a transnational character of the toolkit and a successful application of the toolkit with the active involvement of stakeholders in Crete are the main success criteria for the pilot project.

## DIFFICULTIES AND UNEXPECTED EVENTS

No specific difficulties were met.

## ASSESSMENTS

Regarding to local success criteria

An effort for transferability of results is in progress with the collection of environmental data necessary for input in the software in order the toolkit to be applicable to other partners' regions.

Regarding to transnational success criteria:

- Partnership and key actors: inside the PPs, do the partners have the capacities and competences to produce effective results, (particularly private actors)?

The partnership is a mix of experienced partners in the field of RES, having the appropriate background and experience in handling RES related projects and in specific the consultation with the general public and stakeholders in this field.

- **Networking:** does the PPs allowed to enlarge the ENERMED network by involving local, regional and national actors?

The proposed pilot project will involve stakeholders from municipalities, business entities, academia and general public interested in RES investment evaluation, during its application in Crete.





- Does the PP bring actual innovation in terms of practices, outputs and results, financing and creation of new political perspectives for RES policies and strategies in the Mediterranean region?

The PP is innovative for the Greek territory, because it will compile all the information needed in one toolkit, in order to assess a RES investigation, having as prerequisite for the user the basic knowledge regarding RES.

- Integration-Mainstreaming: are the PP results being integrated into existing RES policy frameworks at diverse levels (local, regional, national and European)?

The application results of the toolkit in the region of Crete, will be proposed to be integrated into the regional strategies or planning.

- Governance: is there a multi-level and multi-actor mobilisation and influence for improving coherence, coordination and

complementarity in policies, programmes and projects?

- Sustainability: what is foreseen for ensuring the project continuity and/or duration of results over the end of the PPs?

The toolkit is uploaded in CRES server, so the website will be active even after the termination of ENERMED project.

We expect that during as well as after the project's implementation, established partner relationships between the organizations involved in the PP and those that will join the network afterwards will contribute to the desired promotion of the toolkit to the target groups. The budget of this project provides funds for all activities that are to be executed during the project realization period.

- Transferability: are there some practices and their elements (activities and outputs) developed within the PP that can be implemented in other (territorial, sectoral) contexts?

Adaptation of the toolkit for all the MED Programme countries is possible and is planned for all ENERMED partners' countries.

## PACA Region (France): Feasibility Study on Biomass of PACA region

### SUMMARY OF THE PILOT PROJECT

This pilot project concerns the feasibility study on the potential development of wood biomass industry in region PROVENCE-ALPES-COTE-D'AZUR

### PLANNED ACTIVITIES

- Quantitative evaluation of the needs
- Qualitative study of the available woods stuck
- Identification of the funds and incentives that can be used for developing the regional industry



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Croatia:

# Public Building Roofs Exchange in Primorje – Gorski kotar County



## SUMMARY OF THE PILOT PROJECT

Developing small solar (PV) projects on public roofs by a simplified administrative procedure: leasing public roof to investor

## MAIN OBJECTIVE OF THE PILOT

Reducing bottlenecks in administrative procedure (which is complicated) on local (county) level – preparation of PV projects up to phase when financing is needed. The project aims to ease the process and overcomes barrier for obtaining permits and in that way to leverage PV market in the County. It is also planned to establish a cadastre of the public buildings roofs suitable for PV plants.

## INVOLVED PARTNERS

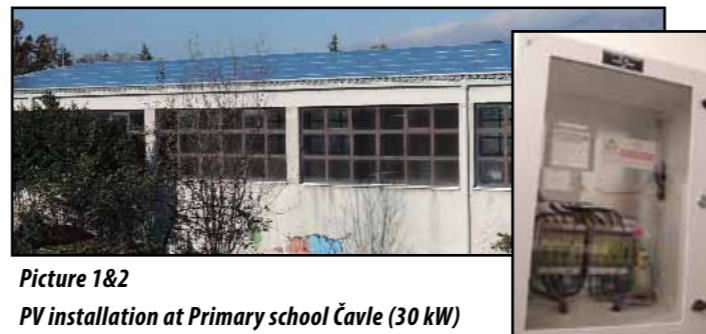
Energy Institute Hrvoje Požar (EIHP) is involved as Programme Consultant for financing for the first six PV system. As a member of Public tender committee, it participates in public tender procedure for equipment (technical criteria for equipment) and works purchase, and is involved in project reporting to the bank. The main project developer is Regional Agency Kvarner (REA Kvarner). REA Kvarner is responsible for drafting project documentation and obtaining permits in administrative procedure. REA also supervises the project and assures the installation quality. REA Kvarner appears as investor in first six PV systems (pilots), as well as two additional installations that arose after the finalization of six pilots. It is expected that further installations will be left to the private investor. However, it is not clear at what stage this will happen. In other words, it is not sure for how long will REA Kvarner continue to be involved in the project as investor.

## SUCCESS CRITERIA

**Environmental:** Technical potential of all planned PV installation by this project is estimated at 2 MW in total. Electricity production is estimated at 2.200 MWh/year what is sufficient to satisfy energy demands of some 500 households and will result in 1.100 tons of CO2 savings. For now it is installed 160 kW, and further 60 kW will be installed in near future. It is estimated that through operation of these six pilots (PVs) the emissions of CO2 will be reduced for 107t annually.

**Financial:** Production of electricity from solar energy is seen as potential stimulants for local economy, mostly because most of investment is made into construction and installation that are conducted by local companies. Based on the previous calculations of energy production, economic- financial analysis has shown that described project are profitable and rentable. Furthermore, eligible electricity producer will generate income from feed-in -tariffs, while institution who is renting the roof will benefit from income from roof rental (4 % of yearly income from generated electricity sales).

**Governance:** Local administration involved in RES administrative procedure has been



Picture 1&2  
PV installation at Primary school Čavle (30 kW)

introduced with specifics of PV installations, thus they are now familiar with required permits and ways to easily solve problem and issue permits. This led to the reducing of waiting time for other PV projects in County, developed by other developers.

## DIFFICULTIES AND UNEXPECTED EVENTS

Even though there has been improvement at local level, administrative procedure is still too long and complicated, and it takes between 7-12 months to acquire all documentation and approvals from relevant national bodies. Since REA Kvarner is public entity, equipment and financing must be obtained through public procurement, even though it doesn't receive funds from public budget. The approval from banks makes procedure even longer.

## ASSESSMENTS

### Local success criteria:

Success could be summarised in terms of achievements which are listed in following bullet points:

- identification of suitable roofs
- identification of main constrains
- development of six operational project (160 kW in total)
- improvement of administrative procedure
- greater interest in RES
- production of energy from RES
- identification of investment opportunities
- local production of 175 500 kwh/a energy
- CO2 savings of 107 t/a
- two new project are in development phase

Since the project became operational recently, it is yet to be seen how successful this approach really is in long run. REA Kvarner is investor on first six systems, which are regarded as pilot project. Upcoming projects/systems will be put on Public roof exchange, but they are still not prepared for that. The interest of investors will show the real potential of this project. However, the desire of the County to invest in first six systems, shows a serious commitment of local authorities in development of RE, and represents a big step forward in regional policies towards RES.

During the implementation of project, licensing procedure for small PV systems on building was simplified, and there is a question whatever special agency is needed for obtaining permits. However, it is clear that selection of roofs is one of the crucial issues in the project development, and local energy agencies should have capacities to undertake this tasks. With this project, the procedure has been speeded up, at least at County level. This project can serve as example to other Croatian Counties, that do have potential for similar projects.

## ASSESSMENT REGARDING TRANSNATIONAL SUCCESS CRITERIA:

- **Partnership and key actors :** The project has shown effective collaboration between REA Kvarner as representative of the County, with EIHP and other stakeholders, such as school administration, banks, equipment installers. This has resulted in six fully operational systems.
- **Networking:** Pilot project enabled the communication and cooperation between research institution at national level, in this case EIHP as ENERMED partner, an local regional energy agency, local government (the owner of the roofs predicted for installation) and local permitting bodies. For the moment there are no partnerships and networking with other project at the Mediterranean territories.
- **Innovation:** Pilot project introduced a new, innovative way for developing small RES projects, by setting a local energy agency as a main figure responsible for project development up to the financing phase.
- **Governance:** Local government through its energy management agency is taking a lead in implementation of RE projects. Through this experience it has managed to ease the administrative procedure at County level.
- **Sustainability:** After the original pilot projects, the County decided to invest in additional PV installations, indicating success and continuity of the project at local level. Sustainability potential is major, but it is still early to talk about actual indicators of project sustainability.
- **Transferability:** It is estimated that project has a major transferability potential, especially at Country level due to similar context. Based on the experience, results and observations deriving from the pilot project, EIHP will develop a guidelines for project implementation that can be applicable on other territories and communities, with aim to encourage transferability of this project.



### Information

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### 3. Assessment of Pilots - General Remarks



A positive evaluation of Pilot Projects achievements so far, is observed. All the pilot project activities are implemented during the scheduled timeframe. Local and transnational criteria are met in each case and in a general framework for the whole ENERMED project. A strong mobilization of stakeholders is present, even though the financial crisis makes difficult the finance of RE projects. CRES along with IM had sent an evaluation report for all pilots on March 2012 and a positive feedback was presented in the PP project reports.

**An assessment for each pilot is presented below.**

The **PP1** concerns a very innovative approach consistent with the goals of ENERMED, in the direction of innovative governance, sustainable development and innovative financing through ESCO's, certification scheme for energy saving. The local success criteria are very ambitious and in the case of achieving them, this pilot project will represent a very positive best practise example for promoting solar thermal energy for Domestic Hot Water (DHW) in local level through the involment of ESCO's. Deliverables of PP1 could be a booklet transferring all the experience from the implementation of the experimentation, along with the Model Contract template between ESCO's and final customers.

The **PP2** is a very well organized pilot. This PP succeeded the creation of a large network with the active involvement of several stakeholders. The partnership should try to integrate PP experience and results into the existing local strategy for RE. In this way, a Strategic Plan describing all the experience of this feasibility study should be prepared for local authorities of Tuscany Region. The questionnaire for "Enhancement of Agroforestry Biomass in Tuscany-Limits and Opportunities" has a transnational character and could be used as a basis for similar research in other Med regions.

The **PP3** concerns the implementation of a feasibility study along with networking and raising activities for the optimal use of RES in North African catfish farming. The PP has a strong public-private partnership and the involvement of various stakeholders at different levels (local, regional, national). This SMART project has the target to influence Regional policies and the Regional Development Plan which will start in 2013. Delivable of this PP should be a Feasibility Study which will address technical, social and economical issues along with the experience of networking activities, in order to be used a best practices example for other Med regions.

The **PP4** concerns the creation of a «Structure» concerning to renewable energies, in particular solar energy to carry out a series of actions with local approach that takes into account the problems, possibilities, capacities and resources of our area. A strong partnership with the involve-

ment of technical organisations and policy makers has been developed. This Renewable Energy Structure creates synergies between research, innovation and territorial cohesion through a local government. This Structure should be in apposition to influence local policies concerning RE and to address actions to regional and national authorities. Deliverable of this PP could be a Report with guidelines how to achieve this innovation group addressing administrative and financial issues.

The **PP5** concerns the support of local governance through a demonstrative kiosk with the active involvement of various stakeholders. The kiosk will have its premises in the town of Sinnai, permanent staff will guarantee its operation. This demonstrative kiosk will have a dual role: it will act as an informative feature and will also contribute to local strategies. So, target groups are both decision makers (development of strategic planning) and general public (awareness raising). This is an innovative approach and satisfies most of the transnational success criteria. Deliverable of this PP could be a booklet describing the activities, summarising the obtained experience, addressing difficulties and propose elements from sustainability and transferability to other Med Regions.

The **PP6** concerns the development of a Decision Support Toolkit (RES-DST) which will assist local authorities in the evaluation of RES investments (wind, PV, biomass, etc.) and to inform the users about the procedures / requirements of implementing RES investments. A trial application of the toolkit will be performed in the Region of Crete. This toolkit is an innovative tool for local governance towards RE implementation strategies. Transferability of results will be obtained with the localised version of the toolkit applicable to all partners regions. Training seminar in each country given by PP6 partners are suggested, if feasible within project timetable. Deliverable of the PP could be the on-line application of the toolkit plus a manual.

The **PP7** concerns a feasibility study on Biomass of PACA Region. The deliverable could be the feasibility study describing the activities and the obtained experience, addressing difficulties and propose actions for integration into regional and/or national strategies.

The **PP8** concerns the development of small solar (PV) projects on public roofs by a simplified administrative procedure: leasing public roof to investor. This is a very innovative approach intents to strength the RES market and raise the interest of private investors. Even though this project has no enermmed financial contribution, it experiments operational projects. Deliverables of this project could be a report describing all the administrative, financial and technical issues concerning the project and a Guideline with recommendations for applying this innovative approach to other Med regions. With the latter deliverable the transferability of results will be achieved.



# Partners



REGIONE AUTONOMA DELLA SARDEGNA

Laore Sardegna (Italy)



E-Zavod - Institute for Comprehensive  
Developmental Solutions (Slovenia)



Centre for Research and Technology  
Hellas/Institute for Solid Fuels  
Technology and Applications  
(CERTH/ISFTA) (Greece)



Scuola Superiore Sant'Anna (Italy)



Center for Renewable Energy  
Sources (CRES) (Greece)



Institut de la Méditerranée

Institut de la Méditerranée (France)



Region of PACA -  
Directorate of Water Management  
and Agriculture (France)



Region of Crete -  
Energy Agency of Crete (Greece)



Ayuntamiento de La Pobra  
de Vallbona, Valencia (Spain)



Ayuntamiento de Benissa, Alicante (Spain)



Energy Institute - Hrvoje Pozar (EIHP)  
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solar

biomass

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